Skaneateles Central School District
Excellence in Education

K-8 Response to Intervention Plan (RtI)
For ELA & Math

Updated: August 2023

K-8 Response to Intervention Plan

Skaneateles Central Schools

The following individuals currently serve on the Response to Intervention Team and have been involved in the ongoing updates to the District RtI Plan:

Name	Title/Position	School Building
Eric Knuth	Superintendent	District
Brian Cohen	Coordinator of STEM	District
Francine Grannell	Coordinator of Humanities	District
Jennifer Whipple	Director of Learning	District
Patrick Brown	Principal	Waterman
John Lawrence	Principal	State Street
Michael Olley	Principal	Middle School
Michael Caraccio	Principal	High School
Pam Anastasio	1st Grade	Waterman
Mary Baldwin	Math Specialist	Waterman
JoAnna Schmeling	Special Education	Waterman
Alyssa Kirley	School Psychologist	Waterman/State Street
TBD	Special Education	State Street
Connie Bohrer	Reading Specialist	State Street
Seth Benjamin	6th Grade, English	Middle School
Rebecca Goodell	6th Grade	Middle School
Brianna Ruggio	Special Education	Middle School
Carrie Viggiano	Math Specialist	Middle School
Elizabeth Chalanick	Math Teacher	High School
Laurie Cinelli	Academic Support	High School
Joshua Hares	Special Education	High School
Doug Lewis	Math Teacher	High School

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Section 1: Introduction

Response to Intervention (RtI) functions as a significant educational framework designed to identify students who may be at-risk in reading and mathematics achievement and research-based strategies and interventions to support their learning. It is aligned to the Skaneateles School District's Mission and Vision.

Mission
Every Skaneateles Laker will have opportunities and support to develop strong relationships, form meaningful connections and explore multiple pathways for lifelong learning.

Vision
The Skaneateles Central Schools community will be a welcoming and inspiring place to learn, grow, work, and live.

Core Values
Skaneateles Central Schools is guided by our core values: Relationships, Connections, and Learning.
- Relationships: Lakers respect and value other people.
- Connections: Lakers are connected – in our community, our world and in our learning.
- Learning: All of us. All of the time.

Response to Intervention Defined
Response to Intervention integrates assessment and intervention within a multi-level prevention system to maximize student achievement. With RtI, schools can use data to identify students at risk for poor learning outcomes, monitor student progress, provide evidence-based interventions and adjust the intensity and nature of those interventions depending on a student's responsiveness, and identify students with learning disabilities. (NCRTI, 2010).

Legislative Background
In September of 2007, the NYS Board of Regents approved multiple amendments to 8 NY Code of Rules and Regulations that requires schools to establish an RtI policy and procedures for students in grades K-4 in the area of literacy. These amendments established a policy framework for RtI in regulations relating to school-wide screenings, minimum components of RtI programs, parent notification, and the use of RtI to identify students with learning disabilities. By adding Section 100.2(ii) to Part 100 of the Commissioner's Regulations it set forth minimum requirements for using a RtI process to determine a student's response to research-based intervention.

Minimum Requirements
The Regents policy framework for RtI:

1. Defines RtI to minimally include:

- **Appropriate instruction** delivered to all students in the general education class by qualified personnel. Appropriate instruction in reading means scientific research-based reading programs that include explicit and systematic instruction in phonemic awareness, phonics, vocabulary development, reading fluency (including oral reading skills) and reading comprehension strategies.

- **Screenings** applied to all students in the class to identify those students who are not making academic progress at expected rates.

- **Instruction matched to student need** with **increasingly intensive levels of targeted intervention** and instruction for students who do not make satisfactory progress in their levels of performance and/or in their rate of learning to meet age or grade level standards.

- **Repeated assessments** of student achievement which should include curriculum based measures to determine if interventions are resulting in student progress toward age or grade level standards.

- The **application of information** about the student's response to intervention to make educational decisions about changes in goals, instruction and/or services and the decision to make a referral for special education programs and/or services.

- **Written notification to the parents** when the student requires an intervention beyond that provided to all students in the general education classroom that provides information about the:
  - amount and nature of student performance data that will be collected and the general education services that will be provided;
  - strategies for increasing the student's rate of learning; and
  - parents' right to request an evaluation for special education programs and/or services

2. Requires each school district to establish a plan and policies for implementing school-wide approaches and pre-referral interventions in order to remediate a student's performance prior to referral for special education, which may include the process as part of a district's school-wide approach. The school district must select and define the specific structure and components of its RtI program, including, but not limited to the:
   - criteria for determining the levels of intervention to be provided to students,
   - types of interventions,
   - amount and nature of student performance data to be collected, and
   - manner and frequency for progress monitoring.

   [8 NYCRR section 100.2(ii)]

3. Requires each school district implementing an RtI program to take appropriate steps to ensure that staff has the **knowledge and skills** necessary to implement an RtI program and that such program is implemented consistent with the specific structure and components of the model.

   [8 NYCRR section 100.2(ii)]

4. Authorizes the use of RtI in the State's criteria to determine learning disabilities (LD) and requires effective July 1, 2012, that all school districts have an RtI program in place as part of the process to determine if a student in grades K-4 is a student with a learning disability in the area of reading. "*Effective on or after July 1, 2012, a school district shall not use the severe discrepancy criteria to determine that a student in kindergarten through grade four has a learning disability in the area of reading.*"

   [8 NYCRR section 200.4(j)]

In addition to the above RtI requirements, regulations adopted by the Regents regarding screening of students with low test scores now requires a review of the students' instructional programs in reading and mathematics to ensure that explicit and research validated instruction is being provided in reading and mathematics.
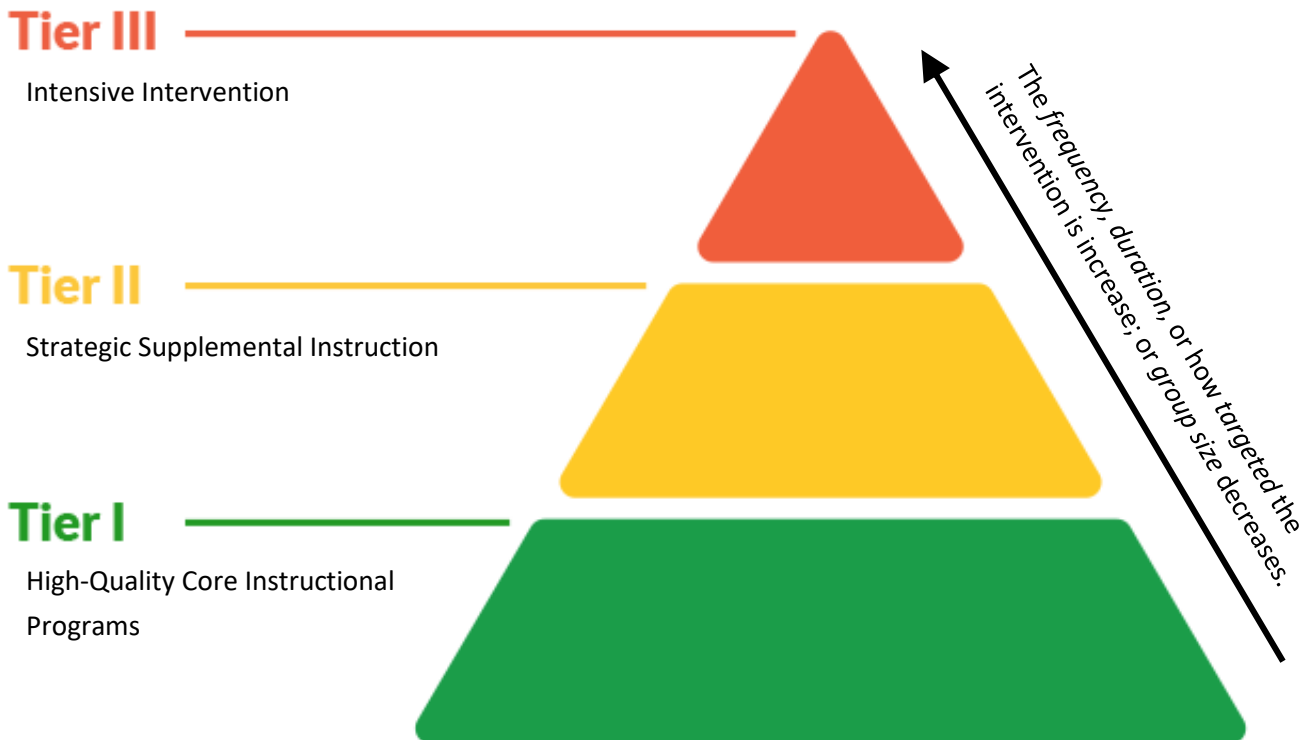- Students with low test scores must be monitored periodically through screenings and on-going assessments of the student's reading and mathematics abilities and skills.

- **If the student is determined to be making substandard progress in such areas** of study, instruction shall be provided that is tailored to meet the student's individual needs with increasingly intensive levels of targeted intervention and instruction.
- School districts must provide written notification to parents when a student requires an intervention beyond that which is provided to the general education classroom. Such notification shall include: information about the performance data that will be collected and the general education services that will be provided; strategies for increasing the student's rate of learning; and the parents' right to request an evaluation by the Committee on Special Education to determine whether the student has a disability.

An RtI process as described above will meet the section 117.3 requirements to ensure a student's progress toward meeting the State's standards.

Section 2: RTI as a Multi-Tiered Prevention Framework

RtI serves as a multi-tiered prevention framework with increasing levels or tiers of instructional support. Skaneateles Central Schools uses a three-tiered model for our RtI process. The graphic presented below provides a visual illustration of the district's RtI model. Further information for each tier follows the graphic.

Tier III — Intensive Intervention

Tier II — Strategic Supplemental Instruction

Tier I — High-Quality Core Instructional Programs

The frequency, duration, or how targeted the intervention is increase; or group size decreases.

Tier 1 Literacy

Skaneateles Central School District prides itself on ensuring **_100%_** of the students receive high-quality instruction from the classroom teacher in Tier 1. Skaneateles School District's Tier 1 K-8 literacy instruction aligns with the NYS Next Generation Learning Standards and evidence-based instruction. Skilled reading and writing require fluent and coordinated execution of **word recognition** and **language comprehension**.

Research tells us that students develop these abilities most effectively in the context of coherent, rigorous, and content-rich texts. To align with Science of Reading research, instruction in Skaneateles Central School District is implemented to explicitly teach students how to read and spell words and make meaning of them. Emerging readers also need enriching reading experiences that provide ample practice in weaving these skills together coherently—this is a critical component of evidence-based reading instruction.

Each of our Tier 1 programs is research-based and aligned with the Science of Reading research. Instruction, materials, and assessments in the programs address critical components of reading, including phonemic awareness, word identification, word study, vocabulary, oral reading fluency, and comprehension. Writing instruction, materials, and assessments also address critical components of the writing process, including explicit instruction in foundational transcription skills and text generation that leads to coherent composition skills.

Tier 1 Programs to Address Word Recognition for Reading and Spelling:
- K-2 Heggerty Phonemic Awareness Curriculum
- Grade 3 Equipped for Reading Success
- K-3 Fundations
- *K-2 Geodes

Tier 1 Programs to Address Language Comprehension & Writing:
- K-8 Wit & Wisdom
- *K-2 Geodes

K-2 Geodes overlaps in both areas, as it provides opportunities for students to apply word recognition skills to reading connected text while also focusing on fluent reading of text and comprehension.

A detailed description of each of the Tier 1 programs is provided in Appendix C.

Tier 2 & 3 Literacy

Skaneateles Central Schools requires Tier 2 interventions to be provided to at risk students *in addition to*, and not in place of core instruction students receive in Tier 1. Instruction/interventions provided in Tier 2 are designed to address the needs or weaknesses of the student relative to the learning process.

Tier 3 is designed for those students who have been unresponsive to Tier 2 intervention or who demonstrate such significant needs that warrant intensive instruction or intervention. This is *in addition to* Tier 1 instruction.

These interventions include:

Word Recognition for Reading and Spelling:

- Heggerty Phonemic Awareness Curriculum
- Equipped for Reading Success (Kilpatrick 1 minute drills)
- Fundations Intervention Lessons
- 6-Step Lesson Plan (The Reading League)
- Use of Geodes to target application of skills to connected text
- Use of decodable and non-controlled decodable texts
- 95% Group Multi-Syllable Word Routines
- Wilson Just Words
- Wilson Reading System
- Road to the Code
- Road to Reading

Evidence Based Strategies to Support Language Development for Receptive & Expressive Language

Tier 1 instruction provides evidence-based strategies to support all students in their development of receptive language skills (reading and listening) and expressive language skills (writing and speaking.) Many of these strategies can be utilized in smaller groups and/or with assistance from push-in support. Some of the strategies that might be used, but not limited to, include:

- Direct Instruction to Re-Teach Core Concepts
- Visualization of text *to help students build a coherent mental model*
- Graphic Organizers
- Exemplars

Considerations of Core Program for English Language Learners: First year ENL students receive additional literacy instruction from the ENL teacher based on program requirements using the NYSESLAT and the universal screening tool. Differentiation strategies for or ELL/MLL population include:

- Use of manipulatives and pictures/diagrams,
- Songs or chants,
- Explicit instruction and opportunities for students to rehearse language structures and vocabulary in the classroom,
- Language support and progress monitoring as students develop proficiency with academic English,
- Professional learning to enhance teacher skills in the areas of co-teaching and language acquisition, and
- Providing multiple access points and multi-modal instruction.

A detailed description of each of the Tier 2 & 3 program is provided in Appendix C.

Tier 1 Mathematics

Skaneateles Central School District prides itself on making sure **_100%_** of the students receive high quality instruction from the classroom teacher in Tier 1. Our K-8 math curriculum is built from research- and standards-based programs and common assessments. Each of our core programs was developed with NSF funding and more than 25 years of research and development.

- Grades K-5: *Investigations 3* (adapted by Skaneateles CSD)
- Grades 6-8: *Connected Mathematics 3* (adapted by Skaneateles CSD)

Considerations of Core Program for English Language Learners: First year ENL students receive additional math instruction from the ENL teacher based on program requirements using the NYSESLAT and the universal screening tool. Differentiation strategies for or ELL/MLL population include:

- Use of manipulatives and pictures/diagrams,
- Songs or chants,
- Explicit instruction and opportunities for students to rehearse language structures and vocabulary in the classroom,
- Language support and progress monitoring as students develop proficiency with academic English,
- Professional learning to enhance teacher skills in the areas of co-teaching and language acquisition, and
- Providing multiple access points and multi-modal instruction.

Tiers 2 & 3 Mathematics

Skaneateles Central Schools requires Tier 2 interventions to be provided to at risk students *in addition to*, and not in place of core instruction students receive in Tier 1. Instruction/interventions provided in Tier 2 are designed to address the needs or weaknesses of the student relative to the learning process.

Tier 3 is designed for those students who have been unresponsive to Tier 2 intervention or who demonstrate such significant needs that warrant intensive instruction or intervention. This is *in addition to* Tier 1 instruction.

These interventions include:

- Explicit research-based strategies
- *Direct Instruction* to re-teach core concepts
- *Dreambox Learning* (Grades 3-8)
- *Do The Math*
  - *Addition and Subtraction (Levels A – C, and Number Core)*
  - *Multiplication (Levels A – C)*
  - *Division (Levels A – C)*
  - *Fractions (Levels A – C)*
- *Number Worlds*

Section 3: Assessment for Data-Based Decision Making Within our RtI Framework

A key component of an RtI framework is the use of assessments and data to inform educational decision-making at the individual student, classroom, and school levels. Universal screening assessments, diagnostic assessments, and progress monitoring assessments are used at different points within the RtI process to address three major questions:
1. Which students may be at-risk for academic failure?
2. What intervention tool would best address the needs of each student determined to be at-risk?
3. How well is the student responding to the intervention?

Universal Screening

Universal Screening assessments are used to answer the question: *Which students may be at-risk for academic failure?*

Screening is an assessment procedure characterized by brief, efficient, repeatable testing of age-appropriate academic skills or behaviors. Screenings are conducted for the purposes of initially identifying students who are "at-risk" for academic failure and who may require closer monitoring, further assessment, or supplemental instruction. The table below provides descriptive information regarding our universal screening procedures.

Determining Who's At-Risk	
Primary Data Source:	*AIMSweb Plus* (K-8; administered Fall, Winter, and Spring) - NYS tests (3-8; administered in the Spring) - District common assessments
Secondary Data Source:	- Diagnostic assessments - Class work - attendance records
Purpose:	- Identify who's at risk - Identify the level of intervention a student requires - Provide preliminary information about the effectiveness of core instruction at Tier 1
Who's Involved:	Administrators, classroom teacher, intervention provider, and/or other providers
Decision Options and Criteria:	See Appendix A and D for a graphic illustration and decision rules related to Initial Risk Status.

Collecting language proficiency data in addition to using the reading screening measures will help to determine the extent and kind of reading and language support students will need to meet important reading goals. (NCRTI, 2010)

Specific *Criteria for RTI Determinations* can be found in Appendix A for literacy and Appendix D for math.

Diagnostic Assessment

Diagnostic assessments are used to answer the question: *What intervention tool would best address the needs of each student determined to be at-risk?*

Assessments that are diagnostic in nature provide greater detail about individual students' skills and instructional needs. They provide educators with information that informs the "what to teach" and the "how to teach." They are typically administered to students who fall significantly behind an established benchmark or when such students have not demonstrated sufficient progress (Center on Teaching and Learning, n.d.).

Our *Diagnostic Assessment Menu* can be found in Appendix B for literacy and Appendix E for math.

Progress Monitoring

Progress Monitoring assessments are used to answer the question: *How well is the student responding to the intervention?*

Progress monitoring is the practice of assessing student performance using assessments on a repeated basis to determine how well a student is responding to instruction/intervention. Data obtained from progress monitoring can (1) determine a student's rate of progress; (2) provide information on the effectiveness of instruction and whether to modify the intervention, and (3) identify the need for further or additional information. Progress monitoring data is also used to determine a student's movement through tiers. The frequency, duration, and nature of the instruction/intervention will determine the frequency of progress monitoring.

Skaneateles CSD uses a variety of tools to monitor progress/growth on the specific skills that are being addressed with each student. The tool used to monitor progress must measure the topics/skills being targeted by each specific intervention, so the progress monitoring tool will differ depending on the intervention. Checks for progress will occur as needed, based on the student and the intervention being administered. Our primary progress monitoring tools include:
- *AIMSweb Plus*
- Intervention-specific tools
- Locally-developed tools

Information about how each intervention will be progress monitored can be found in our *Intervention Menu* in Appendix C for literacy and Appendix F for math.

LD Determination

Effective on and after July 1, 2012, a school district must have an RtI process in place as it may no longer solely use the severe discrepancy between achievement and intellectual ability to determine that a student in kindergarten through 4th grade has a learning disability in the area of reading. In making a determination of eligibility for special education under the classification of LD, the CSE must determine that a student's academic underachievement is not due to the lack of appropriate instruction in reading.

The School Based Intervention Team (SBIT) is a major asset to our district RtI process. When data shows that a student has not responded to intervention or there is a concern that a student might need to be referred to the CSE, those students are brought to SBIT to discuss their progress and next steps. The SBIT team makes use of progress monitoring data and other data sources to examine each student's level of performance and rate of progress over time. By graphing the student's performance and examining the data path, SBIT can make an informed decision about a student's response to intervention.

Section 4: Professional Development

Part 100.2(ii)(3) requires each school district take "appropriate steps to ensure that staff have the knowledge and skills necessary to implement a RtI program and that such program is implemented consistent with…" the specific structure and components of the RtI process selected by the school district.

Ongoing professional development to address the following learning intentions:
- What is RtI?
- Why do we use RtI?

- Training and continued support for best practices in administration of our Universal Screening tools and data collections/reporting tools (ex., *AIMSweb Plus, RTI Direct*).
- Understand the *what*, *why*, and *how* of applying Universal Screening data to determine which students need an intervention.

- Training for specific diagnostic tools (reading, writing, and mathematics), including when and how to use each of them.

- Understand the need for progress monitoring.
- Processes and educator roles for collecting and recoding progress monitoring data.
- Analyzing and communicating (with other educators and with families) about progress monitoring data, which is how we know the extent to which a student is responding to an intervention.

- How do general education teachers provide interventions? (It is not just reading or math specialists' responsibility to address weaknesses.)
    - What is considered *good teaching*? (i.e., research-based, effective strategies for all tiers of instruction)
    - How do we provide *multiple access points* to all learners?
    - Training on instructional modifications.
    - Training for classroom teachers to meet the needs of at risk students.
    - Training for classroom teachers on how to teach students with a learning disability.
- Initial training and ongoing support on specific intervention programs/resources.
- Training in data-based decision making to inform differentiation of instruction.

- What are the communication requirements for Tiers I, II, and III? Who is responsible for communicate on of Tiers to students, classroom teachers, reading/math specialists, and parents?

Section 5: Parent Notification

Pursuant to NYS regulations for *Response to Intervention* [8NYCRR §100.2(ii)(1)(vi)], parents (or person in parental relation) are notified in writing by the principal when their child requires an intervention beyond that provided to all students in the general education classroom. This notice shall include:

- the amount and nature of student performance data that will be collected to monitor the student's growth,

- the nature of the intervention/instructional support the student will receive,

- strategies for increasing the student's rate of learning, and

- the parents' right to request an evaluation for special education programs and/or services.

Pursuant to NYS regulations for *Academic Intervention Services* [8NYCRR §100.2(ee)(6)(i)], parents or persons in parental relation to students receiving academic intervention services shall be provided with:

- Written notification of commencement of services by the principal. The notice shall include:
  - a summary of the academic intervention services to be provided to the student,
  - the reason the student needs such services and
  - the consequences of not achieving expected performance levels.

- Written notification of the ending of academic intervention services.

- Ongoing communication [that provides]:
  - an opportunity to consult with the student's regular classroom teacher(s), and other professional staff providing academic intervention services, at least once per semester during the regular school year;
  - reports on the student's progress at least once each quarter during the regular school year by mail, telephone, telecommunications or other means, in a language or mode of communication understood by the parents or person in parental relation; and
  - information on ways to work with their child to improve achievement; monitor their child's progress; and work with educators to improve their child's achievement.

"To ensure that underachievement in a student suspected of having a learning disability is not due to lack of appropriate instruction in reading or mathematics, the CSE must, as part of the evaluation procedures pursuant to section 200.4(b) and (c) of this Part, consider… data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress during instruction, which was provided to the student's parents."
[8NYCRR §200.4(j)(1)(ii)(b), p. 65]

APPENDICES

Appendix A: Criteria for RtI Determinations:
Grade K, Literacy

Grade	AIMSweb Plus Letter Naming Fluency	AIMSweb Plus Initial Sound Fluency	AIMSweb Plus Letter Word Sound Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade K – Fall	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80% - 100% Mastery

Grade	AIMSweb Plus Letter Naming Fluency	AIMSweb Plus Initial Sound Fluency	AIMSweb Plus Letter Word Sound Fluency	AIMSweb Plus Phoneme Segmentation	District Common Assessments Fundations and Wit & Wisdom
Grade K – Winter	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Grade	AIMSweb Plus Letter Naming Fluency	AIMSweb Plus Letter Word Sound Fluency	AIMSweb Plus Phoneme Segmentation	AIMSweb Plus Word Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade K – Spring	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

RTI Services shall be determined based on the following:

Fall	Winter & Spring
Data Collection Only	Students scoring at or below the 50% tile on AIMSweb Plus measures and at or below 80% mastery on common assessments are reviewed by the grade level team. Each student is discussed to allow for teachers to share secondary data sources, and to determine need for additional diagnostic screening.

Students with IEPs are reviewed individually based on their present level of performance, special education program, services, and annual goals. Inclusion or exclusion from RTI services is determined on a case-by-case basis.

Grade 1, Literacy

Grade	AIMSweb Plus Word Reading Fluency	AIMSweb Plus Letter Word Sound Fluency	AIMSweb Plus Phoneme Segmentation	AIMSweb Plus Oral Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade 1 - Fall	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Grade	AIMSweb Plus Word Reading Fluency	AIMSweb Plus Oral Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade 1 – Winter	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Grade	AIMSweb Plus Word Reading Fluency	AIMSweb Plus Oral Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade 1 – Spring	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

RTI Services shall be determined based on the following:

Fall, Winter & Spring
Students scoring at or below the 50% tile on AIMSweb Plus measures and at or below 80% mastery on common assessments are reviewed by the grade level team. Each student is discussed to allow for teachers to share secondary data sources, and to determine need for additional diagnostic screening.

Students with IEPs are reviewed individually based on their present level of performance, special education program, services, and annual goals. Inclusion or exclusion from RTI services is determined on a case-by-case basis.

Grade 2, Literacy

Grade	AIMSweb Plus Vocabulary	AIMSweb Plus Reading Comprehension	AIMSweb Plus Oral Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade 2 - Fall	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Grade	AIMSweb Plus Vocabulary	AIMSweb Plus Reading Comprehension	AIMSweb Plus Oral Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade 2 - Winter	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Grade	AIMSweb Plus Vocabulary	AIMSweb Plus Reading Comprehension	AIMSweb Plus Oral Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade 2 - Spring	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

RTI Services shall be determined based on the following:

Fall, Winter & Spring
Students scoring at or below the 50% tile on AIMSweb Plus measures and at or below 80% mastery on common assessments are reviewed by the grade level team. Each student is discussed to allow for teachers to share secondary data sources, and to determine need for additional diagnostic screening.

Students with IEPs are reviewed individually based on their present level of performance, special education program, services, and annual goals. Inclusion or exclusion from RTI services is determined on a case-by-case basis.

Grades 3-8, Literacy

Grade 3

Grade	AIMSweb Plus Vocabulary	AIMSweb Plus Reading Comprehension	AIMSweb Plus Oral Reading Fluency	District Common Assessments Fundations and Wit & Wisdom
Grade 3 Fall, Winter & Spring	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Grades 4 & 5

Grade	NYS ELA Test Performance Level	AIMSweb Plus Vocabulary	AIMSweb Plus Reading Comprehension	AIMSweb Plus Oral Reading Fluency	District Common Assessments Wit & Wisdom
Grades 4 & 5 Fall, Winter & Spring	Level 1 or 2	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	Level 3 or 4	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Grades 6, 7 & 8

Grade	NYS ELA Test Performance Level	AIMSweb Plus Vocabulary	AIMSweb Plus Reading Comprehension	AIMSweb Plus Silent Reading Fluency	District Common Assessments Wit & Wisdom
Grades 6, 7 & 8 Fall, Winter & Spring	Level 1 or 2	1st -50th Percentile	1st -50th Percentile	1st -50th Percentile	0-79% Mastery
	Level 3 or 4	51st – 99th Percentile	51st – 99th Percentile	51st – 99th Percentile	80-100% Mastery

Appendix B: Literacy Diagnostic Assessment Menu

Phonological Awareness Skills Test (PAST)

The PAST assesses skills in phonemic awareness and is an informal, diagnostic, individually administered assessment tool to help teachers determine the point of instruction for students and to monitor progress. Note: The PAST is not a normed test.

Quick Phonic Screener (QPS)

The QPS is an informal diagnostic word reading assessment that can help to determine intervention needs and support. The QPS is not a normed test.

Quick Spelling Screener (QSS)

The QSS is an informal diagnostic spelling assessment that can help to determine intervention needs and support. The QPS is not a normed test.

Note: Both the QPS and QSS identify each student's strengths and instructional needs in phonics— decoding and encoding.

Word Identification and Spelling Test (WIST)

The WIST can be used to identify students who are having difficulty with fundamental literacy skills, and to isolate specific areas of weakness for struggling readers. It assesses word identification, spelling, and sound-symbol knowledge, and comes with both an elementary version (grades 2-5) and a secondary version (grades 6-12). It includes both norm-referenced and informal assessments and can be helpful in designing intervention plans for students.

There are two core subtests (Word Identification and Spelling) and a supplemental subtest (Sound-Symbol Knowledge), which can be used in either the norm-referenced or informal assessment:
- Word Identification measures accuracy of sight recognition and ability to apply word attack skills, and sight recognition of irregular high-frequency words
- Spelling assesses ability to spell words from dictation through recall of correct letter sequences for familiar words or ability to apply sound/symbol relationships and rules of English orthography, and recall of letter order in irregular high-frequency words
- Sound-Symbol Knowledge assesses ability to associate sound(s) (i.e., phonemes) with specific letter(s) (i.e., graphemes). Three informal procedures provide additional diagnostic information about the student's performance on the test items, sound-symbol skills, and errors peculiar to written words

Test of Silent Word Reading Fluency 2 (TOSWRF-2)

The TOSWRF-2 can be used to evaluate how accurately and efficiently students can recognize printed words out of context. It can identify students with word-level reading difficulties, help with planning intervention, and assist in monitoring progress. This is a co-normed referenced assessment.

Appendix C: Literacy Menu

Tier 1 Program Description
The following provides a more detailed description of how each Tier 1 literacy program aligns with the Science of Reading research. A graphical representation of how the programs work together to provide comprehensive Tier 1 instruction is also included in this section.

Word Recognition for Reading & Spelling

Heggerty Phonemic Awareness Curriculum is utilized in Kindergarten through grade 2 to provide explicit, systematic phonemic awareness instruction. Phonemic awareness is the understanding that spoken words are made up of individual sounds called phonemes. Phonemic awareness is an auditory training process. A phonemically aware child can isolate sounds, manipulate the sounds, and blend and segment the sounds into spoken and written words.

As we extend phonemic awareness instruction into grades 3 as part of Tier 1 instruction, we transition to utilize **Equipped for Reading Success (*also known as* Kilpatrick's 1-minute drills)**, a comprehensive, Step-by-Step program for the continued development of phonemic awareness and fluent word recognition.

Fundations, a foundational skill program, is used in concert with Heggerty and Wit & Wisdom to provide a comprehensive literacy curriculum for students in Universal Pre-Kindergarten through Grade 3; together, they address states' college- and career-readiness standards. Fundations are both evidence-based and scientifically based. The content of the Fundations program is based on extensive reading research on how students acquire literacy skills. Scientific evidence reveals that reading is the intersection of five critical components: *phonemic awareness, fluency, vocabulary,* and *comprehension*. Specifically, all children should receive direct, systematic instruction in these five areas during grades K–3. Together, they form the foundation upon which higher-level reading skills are built, critical to success in college and the workforce. Without the ability to fluently pull print from the page and comprehend it, students will be unable to understand complex text, one of the best predictors of college success.

Geodes Classroom Libraries, accessible knowledge-building books for developing readers, are also utilized for Levels K, 1, and 2. The Geodes are readable texts; the text is at least 80% decodable and is aligned to the scope and sequence of the Fundations curriculum. Geodes are a unique type of text in which specific decoding strategies are coupled with content and vocabulary. Geodes texts enable students to apply newly learned sound-spelling patterns and practice phonemic awareness and phonics in readable texts. These accessible, knowledge-building books for emerging and developing readers are aligned to topics students study during Wit & Wisdom instruction and allow students to build background knowledge, learn academic vocabulary most efficiently, and provide motivating texts for applying and practicing skills that have been taught. Each book in the collection is designed to cultivate a profound reading experience, enabling students to apply decoding skills while building knowledge in history, science, and the arts. Geodes texts are rich with facts and ideas that spark students' curiosity about the world around them.

Language **Comprehension and Writing**

Wit & Wisdom is a comprehensive, research-based Tier 1 Grades K–8 English curriculum developed by and for teachers. Each Wit & Wisdom module centers on the study of rich and engaging texts, curated to

build student knowledge of important ideas in the liberal arts and the sciences. The approach is integrated and text-based: daily reading, writing, speaking, listening, grammar, and vocabulary study is based on—and draws on evidence from—exceptional texts.

Wit & Wisdom helps teachers celebrate the joy of reading and writing with students, while also supporting all learners to tackle the rigor that the standards demand. By reading books they love and engaging meaningfully in their learning, students develop the knowledge and skills they need to be successful readers, critical thinkers, and effective communicators who love to learn and can succeed in college and careers.

Wit & Wisdom allows educators to teach more meaningful English because of three principles.
1. *Books, Not Basals* - Every Wit & Wisdom text students encounter is authentic and of the highest quality. Instead of basals, students read books they love to build knowledge of important topics and master literacy skills. The texts are wide-ranging and varied, including a careful balance of literary, informational, and fine-art texts.
2. *Knowledge Building* - Every module, or unit of study, in each grade focuses on a topic essential for building background knowledge, vocabulary, and writing skills. For example, students learn about the seasons, the American Revolution, civil rights, and space exploration. Essential topics strategically reoccur, empowering students to deepen understanding of core knowledge across Grades K–8.
3. *Integrated, Not Isolated* - Students practice reading, writing, speaking, listening, and language in an integrated way, with every strand of the standards woven throughout each module. This integrated approach enables students to be more successful as they activate and build on their developing background and vocabulary knowledge of the module topic while learning skills in other areas.

Figure: Integration of Tier 1 Literacy Programs Wit & Wisdom, Fundations, Heggerty and Geodes
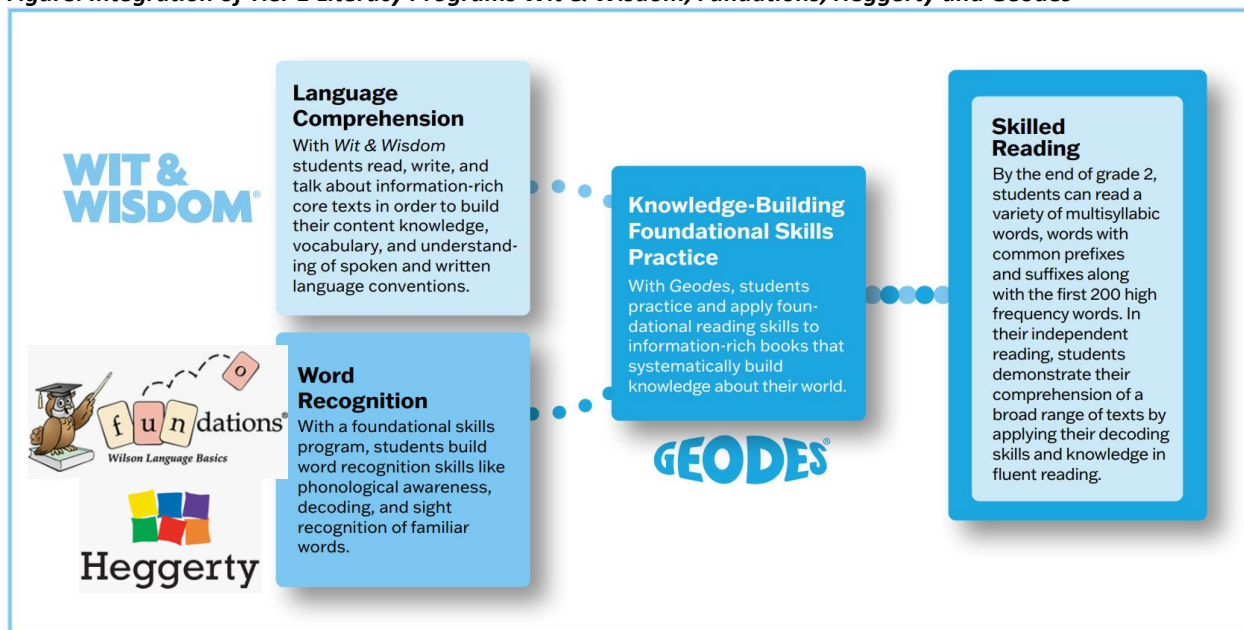
Tier 2 & 3 Program Descriptions
The following provides a detailed description of the Tier 2 & 3 interventions.

Heggerty Phonemic Awareness Curriculum

In addition to students participating in the whole-class Heggerty standard lesson (10 minutes daily) instruction, students who are identified as needing support and reinforcement in the skills they are learning receive targeted systematic phonemic awareness intervention lessons in small groups (up to 5 students) as part of small group instruction targeting specific student needs.

Equipped for Reading Success (*also known as* Kilpatrick's 1-minute drills)
In addition to students participating in whole-class Kilpatrick 1-minute drills in grade 3, these drills can be used as an intervention to support students in developing phonemic awareness in all grade levels. As an intervention, the one-minute drills can be differentiated to include manipulatives to support students in phonemic awareness. Specific scope and sequence skills are tracked to determine student mastery of specific phonemic awareness skills.

Road to the Code
Road to the Code is designed to help kindergartners and first graders with difficulty with their early literacy skills. It is an 11-week program for teaching phonemic awareness and letter sound correspondence. Developmentally sequenced, each of the 44 15- to 20-minute lessons features three activities — Say-It-and-Move-It, Letter Name and Sound Instruction, and Phonological Awareness Practice — that give students repeated opportunities to practice and enhance their beginning reading and spelling abilities. Detailed instructions and reproducible materials — such as Alphabet Picture and Sound Bingo cards — allow teachers to work with students individually or in small groups.

Fundations Intervention Lessons
In addition to students participating in the whole-class Fundations standard lesson (30 minutes daily) instruction, students who are identified as needing support and reinforcement in the skills they are learning receive targeted Fundations intervention lessons in small groups (up to 5 students) (30 minutes 3-5 times per week).

Students achieve increased instructional intensity through the following:
- small, homogeneous group lessons,
- increased instructional time with intervention lessons and targeted instruction in specific areas of difficulty.

6-Step Lesson Plan (The Reading League)
The 6-Step Lesson Plan provides a structure to take diagnostic data and plan an engaging, evidence-aligned lesson to teach, reteach and review phonemic and phonic skills necessary for efficient decoding, spelling, and fluency.

Decodable and Non-Controlled Decodable Texts *for Accuracy, Fluency, Vocabulary & Comprehension*
As part of Tier 1 instruction and ongoing to support in an intervention setting, students practice reading decodable words and phonetically irregular words (i.e. said) with connected text to support their development in oral reading fluency, vocabulary, and comprehension. Scaffolds are provided by the teacher and modeled in a gradual release model to encourage students to use a penciling technique for scooping sentences and passages into meaningful phrases, facilitates reading with prosody.

95% Group Multisyllable Word Routines (MSRC)
MSRC is designed to help students solve the mystery of multisyllabic words by recognizing patterns, identifying correct vowel sounds, and applying syllable division rules. The routines are ideal for whole-class instruction, designed to take just 10 minutes a day or to use as part of a small-group intervention lesson.

MSRC provides direct and explicit instruction on applying knowledge of syllable types and divisions to read multisyllabic words. Decoding multisyllabic words is an essential skill that has a direct impact on reading accuracy, fluency, and comprehension of text. Pronouncing longer words is often challenging for students in grades 3 and above.

The routines are taught through a three-step technique:
- Step 1: Recognize the Syllable Type; the focus is on learning to recognize the pattern and make a gesture to let the teacher know whether students are correctly identifying it. Students sort single-syllable words until they develop fluency in recognition of the pattern of consonants and vowels of the particular syllable type.
- Step 2, Read the Syllable Type; the focus shifts to an accurate and fluent syllable reading. The students apply their fluent recognition of the syllable type to produce the correct vowel sound that applies to each type, then blend and read the syllable.
- Step 3, Read Multisyllabic Words, the purpose shifts to applying recognition and vowel sound pronunciation to reading two-syllable pseudowords and words that appear in text. Instruction is provided on using proper techniques for syllable division.

MSRC provides daily practice through fast-paced routines requiring multiple answers per minute using gestures and verbal responses. Additional opportunities are provided utilizing the student practice sheets. The digital presentation feature allows the teacher to circulate around the room to monitor learning.

Just Words (JW)
Just Words® supports states' college- and career-readiness standards, including Common Core State Standards, by providing struggling readers with strategies that will allow them to independently read and spell words and build the skills necessary to access and master grade-level standards.

Just Words is a word-level intervention program for students who need additional support learning to read and spell at grade level. The program's research-based approach presents all skills in an explicit, systematic, and sequential manner. Within standardized lesson plans, all concepts taught are practiced continually for reading, writing accuracy, and automaticity. Teachers can confidently present a carefully structured, year-long reading and spelling curriculum using engaging, multisensory techniques.

As a word-level intervention program for students in grades 4–12, the alignment of many of the skills presented in the program fall outside of the standards outlined for students in those grade levels. Students identified for a Just Words class often are not able to engage in complex grade-level reading and writing tasks because they are not yet fluent readers or writers. Just Words provides these students with the foundational and language standards that are necessary to be able to access grade-level text. In this regard, Just Words aligns to these key foundational and language standards:

- Know and apply phonics and word analysis skills in decoding words.
- Read with sufficient accuracy and fluency to support comprehension.
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Combining a synthetic phonics approach and explicit instruction in total word structure, students learn all English language letter-sound correspondences, syllable patterns (single and multisyllabic), and common prefixes, roots, and suffixes. They also engage in skilled practice with high-frequency sight words (irregular words). Just Words instruction includes some aspects of reading fluency, vocabulary,

and comprehension. Students have opportunities to practice proper phrasing in oral reading and focus on reading for meaning.

Wilson Reading System (WRS)
WRS supports college- and career-readiness standards by providing students who have a language-based learning disability with the foundational and language skills that are necessary to access grade-level text. This comprehensive program can follow students from grade to grade, as needed.

The principles of instruction have been identified by research as effective teaching principles found to increase student achievement. WRS also aligns with the International Dyslexia Association's (IDA) guidelines for working with students with dyslexia (IDA, 2008). Success is achieved through greater intensity, duration, and smaller group sizes.

Unique characteristics set WRS apart from other programs:
- A systematic, explicit, cumulative, intensive, and focused approach is used to teach the structure of the English language/total word structure for decoding and encoding.
- A systematic and integrated approach to decoding, morphology and the study of word elements, encoding and orthography (internalizing the rules that govern English), high frequency word instruction, oral reading fluency, vocabulary, and comprehension.
- Orton-Gillingham principles make all instruction direct, multisensory, and interactive. Consistent links are made between visual, auditory, and kinesthetic-tactile pathways to enhance memory and learning of written language.
- Unique "sound-tapping system" attunes students to the separate phonemes in a word, develops the understanding that the sounds of spoken language work together to make words, and facilitates segmentation and blending of sounds.
- Material is presented in 12 Steps, not corresponding to school grade levels, that are further divided into 63 incremental substeps, each building upon the previous one. Mastery of each substep is required before progressing to the next one, making the demands of the subsequent substep manageable and achievable.
- A ten-part lesson plan that addresses the following in a sensible and logical fashion: decoding, morphology and the study of word elements, encoding and orthography (internalizing the rules that govern English), high frequency word instruction, oral reading fluency, vocabulary, and comprehension.
- A penciling technique for scooping sentences and passages into meaningful phrases facilitates reading with prosody.
- Concepts are taught through the manipulation of sound, syllable, and word element (prefix, base element, and suffix) cards.
- One of the most extensive collections of controlled and readable text (wordlists, sentences, stories) for students beyond the primary grades provided.
- Three levels of vocabulary offered.
- Criterion-based assessments are built into the program to measure student progress and success.

Road to Reading
Road to Reading is a literacy intervention focused on supporting students to develop accuracy and fluency in decoding. This intervention is ideal for students who can demonstrate beginning levels of phonemic awareness and who know some letter names and sounds. Road to Reading targets the next crucial skills: word identification, oral reading, and dictation. The program can also be adapted for older struggling readers. The easy-to-follow teacher's guide facilitates lesson planning for six levels of instruction that increase in complexity as students progress.

Evidence Based Strategies to Support Language Development for Receptive & Expressive Language
Tier 1 instruction provides evidence-based strategies to support all students in their development of receptive language skills (reading and listening) and expressive language skills (writing and speaking.) Many of these strategies can be utilized in smaller groups and/or with assistance from push-in support. Some of the strategies that might be used, but not limited to, include:

- Direct Instruction to Re-Teach Core Concepts
- Visualization of text *to help students build a coherent mental model*
- Graphic Organizers
- Exemplars

Appendix D: Criteria for RtI Determinations:
K-2, Mathematics

Grade	RTI Points	*AIMSweb Plus* Num. Naming Fluency	*AIMSweb Plus* Quantity Total Fluency	*AIMSweb Plus* Concepts & Applications	District Unit Assessments
K	4	00 – 20	← same	← same	0% – 64.9%
	3	21 – 40			65% – 73.9%
	2	41 – 60			74% – 82.9%
	1	61 – 80			83% – 91.9%
	0	81 – 99			92% – 100%

Grade	RTI Points	*AIMSweb Plus* Num. Comparison Fluency	*AIMSweb Plus* Math Fact Fluency–1 Digit	*AIMSweb Plus* Concepts & Applications	District Unit Assessments
1	4	00 – 20	← same	← same	0% – 64.9%
	3	21 – 40			65% – 73.9%
	2	41 – 60			74% – 82.9%
	1	61 – 80			83% – 91.9%
	0	81 – 99			92% – 100%

Grade	RTI Points	*AIMSweb Plus* Num. System Fluency	*AIMSweb Plus* Concepts & Applications	District Unit Assessments
2	4	00 – 20	← same	0% – 64.9%
	3	21 – 40		65% – 73.9%
	2	41 – 60		74% – 82.9%
	1	61 – 80		83% – 91.9%
	0	81 – 99		92% – 100%

RTI Services shall be provided to each student that accumulates 1 more than half the possible RTI points.

Grade	Points Needed
K	9+ (out of 16)
1	9+ (out of 16)
2	7+ (out of 12)

Students with IEPs are reviewed individually based on their present level of performance, special education program, services, and annual goals. Inclusion or exclusion from RTI services is determined on a case-by-case basis.

3-8, Mathematics

For students in grades 3-8, NYS regulation requires that "school districts identify students to receive AIS in ELA and Mathematics based on a two-step process. First, all students performing below the median scale score between a Level 2/partially proficient and a Level 3/proficient on a Grade 3-8 ELA or Mathematics state assessment shall be considered for AIS. Second, upon identification of a student for consideration of AIS, districts shall then use a district-developed procedure that considers multiple-measures of student performance for determining which students shall receive AIS. The district-developed procedure must be applied uniformly and equitably at each grade level." Below are the multiple-measures and related performance levels Skaneateles CSD uses for making such determinations at each grade level.

Grade	RTI Points	NYS Math Test Performance Level	*AIMSweb Plus* Math Percentile	District Unit Assessments
3	4	Score: 1	00 – 40	0% – 54.9%
	3	Score: Low 2	41 – 54	55% – 73.9%
	2	Score: High 2	55 – 62	74% – 82.9%
	1	Score: 3	63 – 75	83% – 91.9%
	0	Score: 4	76 – 99	92% – 100%

Grade	RTI Points	NYS <u>Gr. 3</u> Math Test Performance Level	*AIMSweb Plus* Math Percentile	District Unit Assessments
4	4	Score: 1	00 – 40	0% – 54.9%
	3	Score: Low 2	41 – 54	55% – 73.9%
	2	Score: High 2	55 – 62	74% – 82.9%
	1	Score: 3	63 – 75	83% – 91.9%
	0	Score: 4	76 – 99	92% – 100%

Grade	RTI Points	NYS <u>Gr. 4</u> Math Test Performance Level	*AIMSweb Plus* Math Percentile	District Unit Assessments
5	4	Score: 1	00 – 40	0% – 54.9%
	3	Score: Low 2	41 – 54	55% – 73.9%
	2	Score: High 2	55 – 62	74% – 82.9%
	1	Score: 3	63 – 75	83% – 91.9%
	0	Score: 4	76 – 99	92% – 100%

Grade	RTI Points	NYS Gr. 5 Math Test Performance Level	*AIMSweb Plus* Math Percentile	District Unit Assessments
6	4	Score: 1	00 – 40	0% – 54.9%
	3	Score: Low 2	41 – 54	55% – 73.9%
	2	Score: High 2	55 – 62	74% – 82.9%
	1	Score: 3	63 – 75	83% – 91.9%
	0	Score: 4	76 – 99	92% – 100%

Grade	RTI Points	NYS Gr. 6 Math Test Performance Level	*AIMSweb Plus* Math Percentile	District Unit Assessments
7	4	Score: 1	00 – 40	0% – 54.9%
	3	Score: Low 2	41 – 54	55% – 73.9%
	2	Score: High 2	55 – 62	74% – 82.9%
	1	Score: 3	63 – 75	83% – 91.9%
	0	Score: 4	76 – 99	92% – 100%

Grade	RTI Points	NYS Gr. 7 Math Test Performance Level	*AIMSweb Plus* Math Percentile	District Unit Assessments
8	4	Score: 1	00 – 40	0% – 54.9%
	3	Score: Low 2	41 – 54	55% – 73.9%
	2	Score: High 2	55 – 62	74% – 82.9%
	1	Score: 3	63 – 75	83% – 91.9%
	0	Score: 4	76 – 99	92% – 100%

RTI Services shall be provided to each student that accumulates 1 more than half the possible RTI points. (7+ out of 12 possible RTI points for students who take all measures.)

Students with IEPs are reviewed individually based on their present level of performance, special education program, services, and annual goals. Inclusion or exclusion from RTI services is determined on a case-by-case basis.

Appendix E: Mathematics Diagnostic Assessment Menu

- *AIMSweb Plus*

- District Unit Assessments

- NYS 3-8 Math Test, Individual Student Report

- *Do The Math* Beginning-of-Module Assessment / Screening

- *Dreambox Math* student grade-level-equivalents, per mathematical domain

- Woodcock Johnson – Math

Appendix F: Mathematics Menu

Evidence-Based Strategies

- **Additional Time on Task**   Hattie effect size: $d = 0.49$
  Research suggests that students are engaged with their lessons about half the total class time (more in lower grades; less in higher grades) and that engaged learning is lowest when teachers are lecturing or watching videos and is highest when students are working in groups or laboratories. "Increasing allocated time, without increasing productive time, is unlikely to improve educational performance" (Hattie, p. 184). As one cognitive scientists preaches, "Memory is the residue of thought" (Willingham). Therefore, learning/remembering is more about the amount of time spent *thinking* (on task) than it is about the raw number of minutes.

- **Deliberate/Deliberative Practice**   Hattie effect size: $d = 0.79$
  Deliberate practice refers to the relevant practice activities aimed to improve performance. This is not just about experience; it's about practice that deliberately targets a specific skill/concept and requires learners to consciously work to improve it. It needs to be "at an appropriate, challenging level of difficulty, and enable successive refinement by allowing for repetition, giving room to make and correct errors, and providing informative feedback to the learner… This is not 'drill and practice'…" (Hattie, p. 185)

- **Spaced (a.k.a., Spiraled) Practice**   Hattie effect size: $d = 0.60$
  Research suggests that students often need three to four exposures to learning – usually over several days – before there is a reasonable probability they have learned the material. Students in spaced practice conditions (small amounts of practice with a space of time between each) consistently perform higher than those in massed practice conditions (lots of practice all at once). Both acquisition and retention are enhanced by spaced rather than massed practice. "It is the frequency of different opportunities rather than merely spending 'more' time on task that makes the difference in learning." (Hattie, p. 185)

- **Practice Testing**   Hattie effect size: $d = 0.54$
  Practice testing "is only effective if there is feedback from the tests to teachers such that they modify their instruction to attend to the strengths and gaps in student performance. Although performance is increased with more frequent testing, the amount of improvement in achievement diminishes as the number of tests increase… When two groups answered identical test items, superior performance was obtained from students who answered the questions on a large number of short tests rather than on a small number of long tests. The caution is that it may not be the frequency of test taking but the frequent test taking made the learning intentions and success criteria more specific and transparent… The effect is not merely from testing and testing, it is from learning from testing." (Hattie, p. 178)

  The importance of feedback in the process could not be overstated. One researcher, for example, found the effect size of frequent practice testing to be:
  - When accompanied by feedback: $d = 0.62$
  - With no accompanying feedback: $d = 0.30$

- **Direct Instruction (used to re-teach core concepts)**   Hattie effect size: *d* = 0.60
  Direct Instruction is a relatively effective teaching strategy, but often has a bad reputation as it is confused with 'teacher-led lecture,' which is not what *Direct Instruction* refers to. Direct Instruction involves seven major steps:
    1. *Learning intentions* are clear to the teacher prior to preparing the lesson. "What, specifically, should the students be able to do, understand, care about as a result of the teaching?"
    2. *Success criteria* of performance needs to be known by the teacher and "the students need to be informed about the standards of performance."
    3. *Build commitment and engagement*. "There is a 'hook' to grab the student's attention, … focus their attention on the lesson, and share the learning intentions."
    4. *Modeling and checking for understanding*. Modeling is where the teacher shows students examples of what is expected as an end product of their work. The critical aspects are explained though labeling, categorizing, and comparing to exemplars of what is desired. Checking for understanding involves monitoring whether students have 'got it' before proceeding. It is essential that students practice 'doing it right,' so the teacher must know that students understand before they start the practice."
    5. *Guided practice*. "This involves an opportunity for each student to demonstrate his/her grasp of new learning by working through an activity or exercise under the teacher's direct supervision. The teacher moves around the room to provide feedback and individual remediation as needed."
    6. *Closure*. "This is where students are helped to bring things together in their own minds, to make sense out of what has just been taught. 'Any questions? No. OK, let's move on' is not closure. Closure is used to… help organize student learning, to help form a coherent picture, to consolidate, eliminate confusion… and to reinforce the major points to be learned. Thus, closure involves reviewing and clarifying the key points of a lesson, tying them together into a coherent whole, and ensuring they will be applied by the student by ensuring they have become part of the student's conceptual network."
    7. *Independent practice*. After the initial learning, reinforcement practice is "provided on a repeating schedule so that the learning is not forgotten. It may be homework or group or individual work in class. It is important to note that this practice can provide for decontextualization: enough different contexts so that the skill/concept may be [generalized]…"

  "The effects of direction instruction are similar for regular (*d* = 0.99) and special education and lower ability students (*d* = 0.86), higher for reading (*d* = 0.89) than mathematics (*d* = 0.50)… and similar for elementary and high school students."
  (Hattie, pp. 204-207)

- **Self-verbalization and self-questioning**   Hattie effect size: *d* = 0.55
  The process of having students think-out-loud (ex., whispering to themselves the steps to complete a given task or the steps in solving a math problem) works well for task-oriented skills (ex., writing and mathematics). It is most effective with students in the early to intermediate phase of skill acquisition and for those of lower or middle ability. (Hattie, p. 192)

- **Problem-Solving Teaching**   Hattie effect size: d = 0.68

  One researcher found "significant direct links between problem solving and various measures of basic performance, in particular skills in basic mathematics. A format consisting of full problem statements supported by diagrams, figures, or sketches directly related to better performance. The teacher characteristic with the most positive effect on students' performance was specialist training in… for example, Polya's (1945) four phases of: (1) understand the problem, (2) obtain a plan of the solution, (3) carry out the plan, and (4) examine the solution obtained." Other researchers have also found that teaching problem solving methods "can also have a positive influence on interpersonal outcomes." (Hattie, p. 210)

  Please note that Skaneateles CSD has developed a 1-page, student-friendly *Problem Solving Process* for mathematics that incorporates all of Polya's work and the research summarized above.

  A report from the What Works Clearinghouse, *Improving Mathematical Problem Solving in Grades 4 Through 8*, details five research-based recommendations to support development of students' problem solving abilities: (1) Prepare problems and use them in whole-class instruction, (2) Assist students in monitoring and reflecting on the problem-solving process, (3) Teach students how to use visual representations, (4) Expose students to multiple problem-solving strategies, and (5) help students recognize and articulate mathematical concepts and notation.

- **Small-Group Learning**   Hattie effect size: d = 0.47

  "Small-group learning differs from 'within-class grouping' (d = 0.18) in that it typically involves assigning a task to a small group and then expecting them to complete this task… The effects of small group learning were significantly enhanced when students had group work experience or instruction, where specific cooperative learning strategies were employed, and when group size was small." (Hattie, p. 94)

- **Provide Worked-Examples**   Hattie effect size: d = 0.37

  "Worked examples typically consist of a problem statement and the appropriate steps to the solution. The [purpose] for providing such worked examples is that they reduce the cognitive load for students such that they concentrate on the processes that lead to the correct answer and not just providing an answer" (Hattie, p. 172). Worked examples show students what 'success' looks like for a whole problem and for each step along the way. When students don't have to remember what step comes next (because it is modeled in the worked example), that extra brain capacity is available to perform the arithmetic, steps, and process.

  While the most recent overall effect size calculated for this strategy is d = 0.37, research has found higher effect sizes when used for certain types of procedural math problems. For example, below are effect sizes found for some variations of worked examples.
    - Integration of sources of information (e.g., diagrams, texts): d = 0.52
    - Fading (gradually omitting some of the steps in the example): d = 0.60
    - Self-explanation of the steps as students used the worked example: d = 0.57

Evidence-Based Programs

- **The Box and Book of Facts: Addition and Subtraction**
  The *Box of Facts* is a collection of ready-to-use laminated cards designed to demonstrate the essential thinking strategies for number facts and help students to understand how and why thinking strategies work. The *Book of Facts* is a teacher resource that is used in conjunction with *The Box of Facts.* It provides lessons and visual models to reinforce number-fact strategies for each operation. Each lesson introduces, reinforces, practices, and extends student understanding of a number-fact strategy.
  - Progress Monitoring Tool(s): *Local:* Addition Fact Fluency Check-up

- **The Box and Book of Facts: Multiplication and Division**
  See description above for *The Box and Book of Facts: Addition and Subtraction*
  - Progress Monitoring Tool(s): *Local:* Multiplication Fact Fluency Check-up

- **Do The Math: Addition/Subtraction, Number Core**
  Supports the development of quantity by using benchmark numbers, thinking flexibly about composing and decomposing numbers, and building facility with figuring sums. This unit includes 30 lessons.
  - Progress Monitoring Tool(s): *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Addition/Subtraction, Level A (Addition with Sums up to 100)**
  Builds on the big idea that "10" is an organizer for our number system. This unit includes 30 lessons.
  - Progress Monitoring Tool(s): *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Addition/Subtraction, Level B (Subtraction with Numbers up to 100)**
  Reinforces addition and subtraction as inverse operations and teaches the three meanings of subtraction: take-away, missing parts, and comparison problems. This unit includes 30 lessons.
  - Progress Monitoring Tool(s): *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Addition/Subtraction, Level C (Numbers Greater than 100)**
  Students read and write numbers to 999,999, use the Commutative Property of Addition and the Associative Property of Addition to solve problems, calculate sums and differences for numbers to 9,999, solve word problems, and communicate ideas with key math vocabulary. This unit includes 30 lessons.
  - Progress Monitoring Tool(s): *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Multiplication, Level A (Basic Concepts)**
  This unit provides visual and contextual models to help students understand the meaning of multiplication. Students calculate products with factors 1-6, represent combining equal groups with related addition and multiplication equations, write word problems, and communicate ideas with key math vocabulary. This unit includes 30 lessons.
  - Progress Monitoring Tool(s): *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Multiplication, Level B (Facts Through 12 × 12)**
  This unit uses array models to represent basic facts and show how the Commutative Property reduces the number of facts to learn. This unit includes 30 lessons.
    o <u>Progress Monitoring Tool(s)</u>: *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Multiplication, Level C (Factors Greater than 12)**
  Develops strategies for making estimates and computing products with two- and three-digit factors, using the distributive property and multiplying by multiples of 10.
    o <u>Progress Monitoring Tool(s)</u>: *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Division, Level A (Basic Concepts)**
  Builds upon the idea that division is inverse to multiplication and provides computational methods for solving division problems, using contextual and concrete methods to support the two meanings of division—sharing and ungrouping.
    o <u>Progress Monitoring Tool(s)</u>: *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Division, Level B (Facts through 100÷10)**
  Applies the inverse relationship between multiplication and division to make sense of divisibility and the concept of taking out a quantity by groups of 10.
    o <u>Progress Monitoring Tool(s)</u>: *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Division, Level C (Dividends to 1000)**
  Extends to dividing two- and three-digit dividends by two-digit divisors, engages students in exploring divisibility, and provides experiences with solving contextual problems involving greater numbers.
    o <u>Progress Monitoring Tool(s)</u>: *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Fractions, Level A (Basic Concepts)**
  Connects and builds upon the big ideas of whole numbers as they apply to fractions, using concrete materials to help students give meaning to the abstract idea of fractions. This unit includes 30 lessons.
    o <u>Progress Monitoring Tool(s)</u>: *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Fractions, Level B (Equivalence and Comparison)**
  Helps students learn key strategies for comparing and ordering fractions while keeping the instructional focus on the meaning of the fractions being compared. This unit includes 30 lessons.
    o <u>Progress Monitoring Tool(s)</u>: *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Do The Math: Fractions, Level C (Addition and Subtraction)**
  Builds on what students have learned in order to develop the computational tools and strategies to add and subtract fractions, including improper fractions and mixed numbers with like and unlike denominators. This unit includes 30 lessons.
    - Progress Monitoring Tool(s): *DTM*: Beginning-, Middle-, and End-of-Module Assessments

- **Dreambox Learning**   Hattie effect size: *d* = 0.57
                                                        (*Technology with learning needs students*)
  Dreambox is an online, research-based, Intelligent Adaptive Learning program. The Intelligent Adaptive Learning means that the program will automatically adjust to offer the next steps for learning for each student. This means that every student will be challenged to learn at their level, where the task is not too hard as to be frustrating and not so easy as to be boring.
    - Progress Monitoring Tool(s): *Dreambox*: Assignment Proficiency and/or Growth Data

- **Number Worlds**
  Number Worlds is a research-proven, teacher-led math intervention program that helps struggling learners achieve math success by intensively targeting the most important standards with the intention of bringing them up to grade-level.
    - Progress Monitoring Tool(s): *AIMSweb Plus*: PM measures, on- or off-grade-level, as appropriate

Appendix G: Documentation of the Determination of Eligibility for a Student Suspected of Having a Learning Disability

The documentation to determine the eligibility for a student suspected of having a learning disability is found within our comprehensive SBIT minutes. Included in the minutes is all of the data collected on the student including the progress monitoring data.

REFERENCES

The template we used for our RtI plan was obtained from http://www.nysRtI.org/

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